PERCEPTION OF BANK EMPLOYEE IN RURAL AREAS FOR FINANCIAL INCLUSION IN WEST BENGAL- AN EMPERICAL ANALYSIS

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Abstract: The term 'financial inclusion' has gained popularity all emerging economies especially in Indian economy after financial sector reforms. Financial inclusion has become an essential pre-requisite for achieving 'Inclusive Growth' in Indian economy and for accelerating economic and social life of rural people. The basic financial services at affordable prices to the weaker section of the society are an essential task for policy maker in recent era. Due to the various constraint like lack of infrastructural problem, environmental problem, geographical problem, basic education and local political problem, financial institution are not able to reach the needy people in rural areas. Therefore the development of rural financial market is the prime concern of central authority to reach the mass. Without changing it's main regular functions, how a financial institution can grow through applying different environmentally friendly policies throughout the rural Bengal is a big question? The presences of dubious non banking financial institution in a long time create a pressure on working condition of general financial system. On the basis of this background this paper attempts to make a comprehensive study of perception of bank employee in rural areas in West Bengal for financial inclusion, considering some qualitative and impact indicator of financial inclusion for achieving the 'Inclusive Growth'. Using a self developed close ended questionnaire that covers 20 critical financial service related variable, the study captures 150 primary sample data collected by the researcher from rural West Bengal. Factor analysis method is used to identify the main indicator of financial inclusion, using SPSS (20) software. Four internally consistent factors were extracted through principle component analysis with a varimax rotation. The study found that both Internal and external factors are responsible for doing banking performance and to achieve "Inclusive Growth" rural financial backbone is the alternative way of success in rural Bengal as well as overall banking performance in India.

Keyword: Financial Inclusion, Inclusive Growth, Factor Analysis, Principal Component Analysis, and Varimax Rotation.
JEL Classification: E60, G01, G23.

Introduction: The overall financial performance as well as the standard of living in our economy gradually improving due to Government initiative for financial inclusion as it is a policy prescription in last decade. But the scope of the terminology of financial inclusion is broader in nature. Financial inclusion has become an essential pre-requisite for achieving 'Inclusive Growth' in Indian economy. In order to accelerating economic growth and social life of rural people the basic financial services at affordable prices to the weaker section of the society is an essential task for policy maker in recent era. Literature of financial inclusion has defined in the context of a larger issue of Socio Economic Phenomenon as it helps to identify lack and opportunity of a people for their asset. According to Rakesh Mohan (2006) – financial exclusion signifies the lack of access by certain segments of the society to appropriate, low-cost, fair and safe financial products and services from mainstream providers. Usha Thorat (2007) by financial inclusion we mean the provision of affordable financial services, (viz., access to payments and remittance facilities, savings, loans and insurance services) by the formal financial system to those who tend to be excluded. Rangarajan Committee (Jan 2008) – It is a process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups at an affordable cost. NABARD, (2008) it emphasizes on the access to basic formal financial services at an affordable cost in a sustainable manner for the vulnerable people. Therefore, Financial Inclusion refers to a situation where people, in general, have connection with the formal financial institutions through holding savings bank account, credit account, insurance policy etc. It may help the person to have affordable access to financial services like formal savings, credit, payments, insurance, remittance etc. It accelerates the circulation of currency and thereby increases the GDP. Therefore, financial inclusion is important for faster inclusive growth. Due to the various constraint like lack of infrastructural problem, environmental problem, geographical problem, basic education and local political problem, financial institution are not able to reach the needy people in rural areas. Therefore the development of rural financial market is the prime concern of central authority to reach the mass. This paper attempts to make a comprehensive study of perception of banking employee of their role in financial inclusion, those are working in rural areas

in West Bengal. I used twenty self develop categorical qualitative variables which show the perception of a bank employee regarding the financial inclusion and their job responsibility for achieving overall objective of financial system in our economy .

Subsequent section has reviewed the literature and section 3 developed a model for analysis the primary data using SPSS 20. Four factors were extracted by principle component method and discuss in section 4 and section 5 conclude this study by providing some policy for the banker and financial regulatory authority for future.

Literature Reviews: A number of studies have been conducted to see the functioning and performance of financial sector in the country especially in rural India to know the present scenario of financial sector and its prospects. Lack of financial inclusion is costly to society and the individual. As far as the individual is concerned, lack of financial inclusion forces the unbanked into informal banking sectors where interest rates are higher and the amount of available funds much smaller. Borrowers are at much greater risk of usury and exploitation. Poverty and informal banking sectors often constitute a vicious cycle that borrowers cannot escape. This is particularly true in rural areas where tenancy farmers are pushed into borrowing funds for fertilizer, machinery and seeds at the beginning of the growing season that the farmers then cannot repay after the harvest is being sold. Few factors are responsible for this lack of financial inclusion. These different factors arise from either supply or demand side of a consumer. Modern banking requires literacy skills that are often not present. Potential customers need to invest time and effort in understanding financial service opportunities and costs. Sarma (2010, p. 3f), referring to Kempson and Whiley (1999a, 1999b), distinguishes between five factors that account for the lack of financial inclusion (exclusion): (1) Access exclusion due to geography and "risk management of the financial system", (2) Condition exclusion "due to conditions that are inappropriate for some people," (3) Price exclusion due to non-affordability of financial services, (4) Marketing exclusion due to the non-attractiveness of conducting business with certain groups within society (lending risk), and (5) Self-exclusion, due to "fear of refusal or due to psychological barriers." Demirguc-Kunt and Klapper (2012, p. 19) report seven self-reported reasons for lack of financial inclusion, which rank lack of trust sixth. In descending order of importance the other reasons were: (1) Not enough money, (2) Too expensive, (3) Family member already has account, (4) Too far away, (5) Lack of necessary documentation, (7) Religious Reasons. As financial inclusion increases the amount of funds being made available and reduces borrowing costs, capital should increase (Claessens and Perotti, 2007, p.758). In addition, building a banking service infrastructure is capital, too. Moreover, the expansion of financial inclusion (FI) is likely to facilitate the matching process between savers and investors, which increases total factor productivity (Claessens, S.,2006). According to Subbarao. (2009) financial institution has many challenges like geographical, political, local community and infrastructural problem in remote areas. Against this backdrop, this study has set the objectives as follows: First I set twenty important categorical variables which explain the perception of financial inclusion of a banking employee in rural areas regarding their job profile and constraint in their daily performance. Second find out important factors by considering all categorical variables applying factor analysis to explain the nature and perception of financial inclusion of rural bank employee in West Bengal on the basis of 150 filed survey questionnaire.

Model Development: In order to find out the average perception of a bank employee for financial inclusion and how they are looking the rural people when doing their regular jobs. On the basis of their perception and problem face in reality a structure questionnaire was designed and collected data from different bank employee. A research model was developed and tested to verify whether following parameters may help to improve the overall performance of each financial institution.

The sample was chosen at random from three districts under West Bengal and covers 150 respondents having more than 5 years experience in rural bank. The questionnaire consisted of 20 close-ended questions where the respondents had given their views against a five point likert scale ranging between 1 to 5 where 1 indicated highly agree , 2 was agree , 3 was moderate agree , 4 was disagree & 5 was highly disagree.

Reliability Test: Reliability test were conducted using SPSS-20 and Cronbach's Alpha statistics. Cronbach's Alpha is calculated based on the following formula:

$$\infty = \frac{k}{(k-1)}\left((1 - \sum \sigma_i^2\right)/\sigma_x^2$$

Where k is the number of items on the test/ scale, σ_i^2 is the variance of item I, and σ_x^2 is the total test variance Cronbach's Alpha which is the average of all the possible reliability on the single test.

Factor Analysis Model: The underline assumption of factor analysis is, all variables within a particular group are highly correlated among themselves but have relatively small correlations with variables in a different group.

An orthogonal factor model with n common factors is represented as:

$$\underset{(px\,1)}{X} = \underset{(px\,1)}{\mu} + \underset{(pxn)}{L} * \underset{(nx\,1)}{F} + \underset{(px\,1)}{\varepsilon}$$

Where X is the observed random factor, with p components, has mean and covariance matrix $\sum$. The factor model X is linearly dependent upon a few numbers of observable random variables $F_1, F_2, \ldots\ldots F_n$, called common factors and p additional sources of variation, $\varepsilon_1, \varepsilon_2, \ldots\ldots \varepsilon_n$ called error. In practical, the factor model can be written as:

$$X_1 = \mu_1 + l_{11}F_1 + l_{12}F_2 + \ldots\ldots + l_{1n}F_n + \varepsilon_1$$
$$X_2 = \mu_2 + l_{211}F_1 + l_{22}F_2 + \ldots\ldots + l_{2n}F_n + \varepsilon_2$$
$$\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$
$$\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$
$$X_n = \mu_n + l_{n1}F_1 + l_{n2}F_2 + \ldots\ldots + l_{nn}F_n + \varepsilon_n$$

The coefficient l_{ij} is called the loading of the i-th variable on the j-th factor, so the matrix L is the matrix of factor loadings. I apply the concept of principal component and the varimax procedure to get an appropriate result of factor analysis. The principal component factor analysis of the sample covariance matrix is specified in terms of eigenvalue-eigenvector pairs. In principal component analysis, it is assumed that the communalities are initially 1. In general it is assumed to be 1 but in order to avoid multi-coliniarity of each factor.

A convenient way to check whether the sample is big enough or not to apply a factor analysis we used Kaiser-Meyer-Olkin measure of sampling adequacy (KMO-test). The sample is adequate if the value of KMO is greater than 0.5.

In factor analysis the variables have to be inter correlated, but they should not correlate too highly (extreme multi-co linearity and singularity) as this would cause difficulties in determining the unique contribution of the variables to a factor.

The inter-correlation can be checked by using Bartlett's test of sphericity, which "tests the null hypothesis that the original correlation matrix is an identity matrix" .This test has to be significant: when the correlation matrix is an identity matrix, there would be no correlations between the variables. If the determinant is greater than 0.05, then there is no multi-co linearity.

Multiple Regressions Model: In order to find out the relationship between dependent variable i.e. **overall average perception** against all relevant factor scoring. Regression analysis was carried out with an objective to reveal the intensity of each factor on average perception. The basic theory of regression analysis as follows:

$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon_i$ In this model y_i is dependent variable (overall average perception) which is solely dependent on all factor scores of factor analysis and error term ε_i .

From this model it was established that t values are statistically significant at 95% confidence interval as all values are greater than 1.64. On the basis of ANOVA values the model can be accepted as F values is also significant and above 3 at 95% level of significant.

Table:1 The table shows Reliability Statistics for 20 scale data on the basis of Cronbach's Alpha Based on Standardized Items :

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.727	0.832	20

Table:2 The table shows KMO and Bartlett's Test for factor analysis. First panel shows the KMO value and second panel shows Bartlett's Test of Sphericity for overall acceptance of factor analysis:

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.872
Bartlett's Test of Sphericity	Approx. Chi-Square	1499.091
	Df	190
	Sig.	.000

Empirical result: The statistical analysis was carried out with the help of the SPSS 20. First, a reliability test was conducted on the basis of 20 questions for a sample of 150 data. Then factor analysis was applied to identify important factors on the basis of eigenvalues and scree plot. Initial factor analysis identified four factors on the basis of rotated component matrix and scree plot. At the end multiple regression analysis was conducted to explore the relationship between overall average perception

of financial inclusion and all factor scores and also to predict the significance of each factor to maximize the impact of each factor for improvement of financial performance of a financial institution. Cronbach,s alpha is shown in the table 1. The value is 0.727 and can be regarded as quite large. This indicates that the 20 item are quite reliable on the basis of scale data. Standardized item alpha refers to the alpha that would be obtained if all of the items were standardized to have a variance of 1. Since there is not much variation among the variances of the 20 items in the scale, there is therefore little difference between the two reported alpha's. If items in the scale have widely differing variances, the two alpha's may differ substantially. A simple factor analysis was carried out by principle component method on 20 variables. Table 2 shows the KMO Bartlett test statistics is equal to 0.872 which is highly accepted the overall factor analysis and Bartlett's Test of Sphericity where the χ^2 statistics is significant at 5% level. Hence factor analysis was applied to determine the important factor for our analysis. Table 3 shows the total variance explained by the principle component method. Four factors, which explained 60.80% of the total variance, had eigenvalues larger than one. The scree plot (figure1) showed that four factor could be extracted.

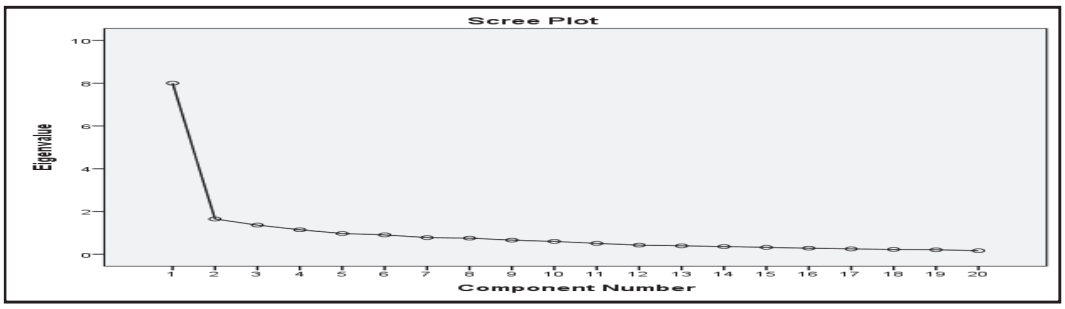

Figure1: Scree Plot for first factor analysis shows the relationship between eigenvalue and different component number for visual display:

Table 4 shows the Rotated Component Matrix. Four perceptional factors were extracted, among twenty variables for our analysis. However, in reality it is very important to identify and assign specific names to each factor which plays an important role to curb the impact of average perception regarding financial inclusion.

The first factor emphasized on the need of financial institution image and its various instrument of their services. The items loadings for this factor were mainly the critical nature of financial instrument provided by the financial institution like Brand image of your financial institution, Competitive interest on loan by your institution, Money transaction and handling process, Alternative scheme availability and Reasonable Interest on Loans. Thus this factor was named as **"Creation of Competitive Advantages of Marketing".**

The second factor covered the ability of service provider to fulfill customer needs as well as commitments towards the society by the institution and therefore named as **"Efficiency of Internal Managerial skill".**

The loading for this factor were mainly the nature of the customer and their needs like Shortage of manpower in your institution, Availability of modern technology, Social Responsibility provided by your bank in your locality, Public Awareness Programme for financial inclusion provided by your bank and Religious and local cultural constraint.

The third factor covered the ability of a service provider to fulfill a customer needs as well as commitments towards a people by the institution and therefore named as **"Personal & Confidentiality Factor for the customer".** The loading for this factor were mainly the nature of the customer and their needs like Priority for Regular Repaying Customer, Confidentiality about Customers Account Information, Level Education of a Customer, Satisfactory reply for your Queries.

The fourth factor captured various problems faced by the employee to provide the services internally as well as externally which is term as **"Manpower and Human Resource Management Factor".**

This factor includes Understanding the technological procedures of bill payment by you –proper training, Managerial efficiency to solve local problem, Time duration of banking service in your bank, Infrastructure and communication problem, Attitude and behaviors of other colleague and Relocation and transferable frequently.

Regression Model: In order to find out the relationship between dependent variable 'overall average perception regarding financial inclusion' and different score of each factors multiple regression model was applied. Table 5 and table 6 shows the

summary of regression model where r (0.742) square value is statistically significant and ANOVA model also shows F (31) value is statistically significant at 95 % level of significant. The fitted regression models are described as:

$$Y = 2.61 + 1.365\,F_1 + 0.985\,F_2 + 0.225\,F_3 + 0.219\,F_4$$

Table 6 shows that all t values are statistically significant at 95 % level. Therefore it is proved that all factor scores are important to explain the dependent variable. Therefore the findings provide evidence that the initiative could be taken by the organization to address the financial inclusion by considering the above factor in our economy.

Table:3 This table shows Total Variance Explained for first factor analysis where first panel shows the component number , second panel shows Initial Eigenvalues, third panel shows Extraction Sums of Squared Loadings and fourth panel shows Rotation Sums of Squared Loadings:

Total Variance Explained

Comp	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.002	40.008	40.008	8.002	40.008	40.008	3.982	19.912	19.912
2	1.648	8.242	48.250	1.648	8.242	48.250	3.297	16.485	36.396
3	1.365	6.823	55.072	1.365	6.823	55.072	2.526	12.630	49.027
4	1.147	5.733	60.805	1.147	5.733	60.805	2.356	11.778	60.805
5	.971	4.857	65.662						
6	.907	4.533	70.195						
7	.781	3.903	74.098						
8	.754	3.769	77.867						
9	.662	3.311	81.178						
10	.602	3.008	84.186						
11	.509	2.547	86.732						
12	.429	2.144	88.876						
13	.395	1.973	90.850						
14	.362	1.809	92.658						
15	.322	1.612	94.270						
16	.285	1.427	95.698						
17	.253	1.264	96.962						
18	.229	1.145	98.106						
19	.210	1.052	99.158						
20	.168	.842	100.000						

Table:4 This table shows Rotated Component Matrix for factor analysis where first panel shows all perception variables and second panel shows different component of each factor coefficient

Rotated Component Matrix[a]

	Component			
	1	2	3	4
Brand image of your financial institution	.735			
Competitive interest on loan by your institution	.713			
Understanding the technological procedures of bill payment by you –proper training				.658
Shortage of manpower in your institution		.651		
Availability of modern technology		.654		
Money transaction and handling process	.673			
Managerial efficiency to solve local problem				.519

Alternative scheme availability	.662			
Time duration of banking service in your bank				.755
Reasonable Interest on Loans	.689			
Priority for Regular Repaying Customer			.658	
Infrastructure and communication problem				.658
Relocation and transferable frequently				.609
Confidentiality about Customers Account Information			.803	
Satisfactory reply for your Queries			.813	
Attitude and behaviors of other colleague				.519
Social Responsibility provided by your bank in your locality		.629		
Public awareness programme for financial inclusion provided by your bank		.712		
Level Education of a Customer			.760	
Religious and local cultural constraint		.722		

Table:5 This table shows the model summary of regression analysis where first three panel shows different r values and fourth panel shows change statistics and last panel shows Durbin Watson autocorrelation statistics:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Durbin-Watson
					F Change	df1	df2	
1	0.86	0.742	0.823	0.018	31	5	1495	1.616

Table: 6 This table shows summary of Regression coefficients where first panel shows all parameters

Coefficients[a]

Model		standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error			Tolerance	VIF
1	(Constant)	2.61	0.18	14.23	0.000		
	REGR factor score 1	1.365	0.42	3.25	0.000	1.000	1.000
	REGR factor score 2	0.985	0.21	4.52	0.000	1.000	1.000
	REGR factor score 3	0.225	0.03	6.2	0.000	1.000	1.000
	REGR factor score 4	0.219	0.09	2.31	0.000	1.000	1.000

Conclusion: Using this factor analysis I draw four factors are very important to improve the performance of financial institution. The first factor emphasized on the need of financial institution image and its various instrument of their services known as "**Brand Values and Various Services Availability**", the second factor covered the ability of service provider to fulfill his personal needs as well as commitments towards the financial services by the institution and therefore named as "**Personal & Confidentiality Factor**", The third factor revealed the external environment which influences a customer for having a bank account or not. Therefore this factor was named as "**External Environmental Factor**" **and** the fourth factor captured various problems faced by the management or the service provider internally to the people which is term as "**Internal Managerial Factor**". Regression model shows an overall impact of each factor on average perception of a consumer of financial inclusion.

Therefore, in order to improve the efficiency of a financial institution, the Policy makers may concentrate on the four factors which will help to increase the financial awareness and help our economy to reach "Inclusive Growth" in near future.

Limitation of the study: This study has some limitations as mentioned below:

This paper depend on primary data survey where

some baised from respondent may have an alternative solution for the above stated problem. This is bsically an anlysis which based on employee responses so more response make an alternative solution. I used factor analysis to identify the main factor for financial inclusion on the basis of employee views, other sophisticated model may have an alternative reslut.

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